

REMARKS/ARGUMENTS

Claims 1-26 are pending in the present application. Claims 1-3, 7, 16, 19 and 24-26 were amended. No claims were added or canceled. Support for the claim amendments can be found, for example, on page 16, lines 25-31 of the specification. Reconsideration of the claims is respectfully requested in view of the above amendments and the following comments.

I. 35 U.S.C. § 102, Anticipation: Claims 1-12, 14-22, and 24-26

The Examiner has rejected claims 1-12, 14-22, and 24-26 under 35 U.S.C. § 102(e) as being anticipated by Feldman et al., US Patent No. 6,442,545 (hereinafter “Feldman”). This rejection is respectfully traversed.

In rejecting the claims, the Examiner states with respect to independent claims 1, 16, 24 and 26:
(Claims 1, 16, 24, and 26)

Feldman discloses in figures 1-4, a method for managing data organisation for computer programs, the method including the steps of generating and storing a reference taxonomy, the reference taxonomy comprising information defining a data organisation; accessing storage associated with a computer program to obtain an application taxonomy, the application taxonomy comprising information defining the organisation of stored data items of the program (col. 11, lines 27-52); comparing the reference taxonomy with the application taxonomy to identify matching and non-matching features of the compared taxonomies (col. 10, lines 51-58); and in response to a selection of a preferred taxonomy based on a result of the comparison, storing the preferred taxonomy as a replacement of at least one of the reference taxonomy and the application taxonomy (col. 10, lines 59 +).

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Claim 1, as amended herein, is as follows:

1. A method for managing data organisation for computer programs, the method including the steps of:
generating and storing a reference taxonomy, the reference taxonomy comprising information defining a user preference for data organisation;
accessing storage associated with a computer program to obtain an application taxonomy, the application taxonomy comprising information defining an organisation of stored data items of the program;
comparing the reference taxonomy with the application taxonomy to identify matching and non-matching features of the compared taxonomies; and
in response to a selection of a preferred taxonomy based on a result of the comparison, storing the preferred taxonomy as a replacement of at least one of the reference taxonomy and the application taxonomy.

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983). In this case each and every feature of the presently claimed invention is not identically shown in Feldman, arranged as they are in the claims and, accordingly, Feldman does not anticipate the claims. With respect to claim 1, for example, Feldman does not disclose or suggest any of the recited steps of “generating and storing a reference taxonomy, the reference taxonomy comprising information defining a user preference for data organization”, “comparing the reference taxonomy with the application taxonomy to identify matching and non-matching features of the compared taxonomies”, or “in response to a selection of a preferred taxonomy based on a result of the comparison, storing the preferred taxonomy as a replacement of at least one of the reference taxonomy and the application taxonomy.”

Feldman is directed to a mechanism for text mining in a document database in order to extract information from the documents. Feldman provides a memory which stores a hierarchical taxonomy of terms, and a processor which uses the taxonomy to perform mining of the database (see column 2, lines 14-21 of Feldman). In Feldman, a user inputs terms of interest and the processor discovers relationships between the input terms and terms in the taxonomy and provides these relationships to the user who may then select one or more of the relationships to improve the usefulness of the extracted information (see, for example, column 2, lines 22-30 of Feldman).

Feldman does not, however, disclose or suggest “generating and storing a reference taxonomy, the reference taxonomy comprising information defining a user preference for data organization”, and “comparing the reference taxonomy with the application taxonomy to identify matching and non-matching features of the compared taxonomies” as recited in claim 1.

The Examiner refers to paragraph 10, lines 51-58 and column 11, lines 27-52 of Feldman as disclosing these features of claim 1. These portions of Feldman are reproduced below for the convenience of the Examiner:

Furthermore, after a first iteration of text mining, processor 26 may find in step 50 (FIGS. 3 and 4) that each of the following terms occurs with high frequency in documents matching the revised query, compared to the terms' frequencies in all

documents in database 36: {"White House", "US", "Trade controls", "Copyright protection", "Dell", "Bill Clinton", "Jacques Chirac", "European Parliament"}).

Feldman, column 10, lines 51-58.

In a preferred operational mode, an interactive browser 92 of terms processor 90 (FIG. 2) enables the user to enter a query, to see the results of a first iteration of text mining responsive to the query, and to enter a new query based on the knowledge obtained during the first text mining iteration. In an experimental application of the interactive browser, the inventors investigated co-occurrences of daughter entries of two nodes in the taxonomy, "Business alliance topics" and "Companies," as reflected in the approximately 52,000 articles contained in the Reuters Financial News Database from 1995 and 1996. Prior to input of the query, term generator 80 in input block 82 processed the 52,000 articles, which contained an average of 864 words per article, and produced thereby an average of 45 terms per article. Prior to text mining, the taxonomy contained a set of terms, such as "Joint venture," "Strategic alliance," and "Merger," under the parent entry, .sup.1 "Business alliance topics," and an extensive list of company names under the parent entry, "Companies." With input block 82 thus defined (term generation, database, taxonomy, and user query), interactive browser 92 found 569 relevant references in the Reuters database, generated a list of article titles, and highlighted terms which matched the user's query, e.g., {"Apple Computer", "Sun Microsystems," "Merger talk"}, {"Lockheed Corp. ", "Martin Marietta Corp. ", "Merger"}, and {"Chevron Corp. ", "Mobil Corp. ", "Joint venture"}.

Feldman, column 11, lines 27-52.

The above portions generally describe the mechanism by which the mining processor in Feldman is able to identify relationships between terms input by a user and terms in the taxonomy stored in memory, and present the relationships to the user so that the user may "enter a new query based on the knowledge obtained during the first text mining iteration." Neither in the above portions of Feldman, nor anywhere else in Feldman, however, is there a disclosure or suggestion of "generating and storing a reference taxonomy, the reference taxonomy comprising information defining a user preference for data organization", or "comparing the reference taxonomy with the application taxonomy [that comprises information defining an organisation of stored data items of a computer program] to identify matching and non-matching features of the compared taxonomies." In Feldman, a user simply inputs one or more terms to be searched. This is not the same as and is not a disclosure of generating and storing a reference taxonomy that comprises "information defining a user preference for data organization" as recited in claim 1.

Further, in Feldman, the mining processor identifies relationships between the terms input by the user and terms stored in the taxonomy and presents these relationships to the user. This is not the same as "comparing the reference taxonomy with the application taxonomy to identify matching and non-matching features of the compared taxonomies" as recited in claim 1.

Again, Feldman simply identifies relationships between terms input by a user and terms in the taxonomy stored in memory and presents these identified relationships to the user.

Therefore, Feldman does not disclose or suggest "generating and storing a reference taxonomy, the reference taxonomy comprising information defining a user preference for data organization", and "comparing the reference taxonomy with the application taxonomy to identify matching and non-matching features of the compared taxonomies" as recited in claim 1, and does not anticipate claim 1 for this reason.

Feldman also does not disclose or suggest "in response to a selection of a preferred taxonomy based on a result of the comparison, storing the preferred taxonomy as a replacement of at least one of the reference taxonomy and the application taxonomy" as recited in claim 1. The Examiner refers to column 10, lines 59+ of Feldman, as disclosing this feature of claim 1.

Column 10, lines 59 to column 11, line 26 of Feldman is reproduced below for the convenience of the Examiner:

In and of themselves, these results may provide user 22 with information that she previously had not had, and which might not have been immediately available by simply applying a search engine to the same, hypothetical, news database (even with the revised query). To attain even greater power from the text mining process, user 22 is prompted in step 60 to indicate whether any of the "Result" terms should be incorporated into the taxonomy. Preferably, insertions into and editing of the taxonomy are performed in step 70 using user interface 38 (FIG. 1A), which typically comprises a keyboard and mouse. Most preferably, user 22 modifies the taxonomy using well-known editing tools, such as "drag-and-drop" editing, "double-clicking" upon desired entries, use of dialog boxes, etc. In the present example, user 22 might drag "White House" and "US" into the taxonomy so that these terms become siblings of "United States of America." Similarly, "Jacques Chirac" may be made a daughter entry of "France."

Typically, changes to the taxonomy are immediately used in a subsequent text mining iteration. Thus, the inclusion of the terms "Jacques Chirac," "White House," and "US" may generate a larger set of useful, relevant, documents, upon which the analysis functions provided by the present invention can be performed.

Alternatively or additionally, user 22 may choose to edit the taxonomy substantially independently of the results of the text mining process. This "manual" editing of the taxonomy typically comprises copying an external taxonomy into the current taxonomy. External taxonomies generally comprise lists, such as the names of bones in the human body, the countries and capitals of South America, the names of the planets, etc. Additionally, user 22 is preferably enabled to move or copy sub-trees of the taxonomy, or to add, delete, or edit individual entries in the taxonomy.

Nowhere in the above portion of Feldman is there any disclosure or suggestion of "storing the preferred taxonomy as a replacement of at least one of the reference taxonomy and the application taxonomy" in response to a selection of a preferred taxonomy based on a result of a comparison between a reference taxonomy with an application taxonomy. To the contrary, the

above portion of Feldman, at best, teaches only modifying the taxonomy therein. For example, the above portion includes statements such as “insertions into and editing of the taxonomy are performed”, “user 22 modifies the taxonomy using well-known editing tools” and “the user 22 may choose to edit the taxonomy.” Feldman does not, in the above-reproduced portion referred to by the Examiner or elsewhere, disclose or suggest storing a preferred taxonomy “as a replacement of at least one of the reference taxonomy and the application taxonomy.”

Yet other portions of Feldman emphasize this difference. For example, in column 10, lines 21-28 of Feldman it is stated:

A variety of useful text mining functions are provided by the present invention, as described hereinbelow. In applying these functions, the present invention provides the user with the ability to essentially continuously and interactively revise the taxonomy responsive to results of text mining shown by display block 44, and to use the revised taxonomy to refine the query, in order to enhance the user's ability to derive useful information from system 20. (Emphasis added.)

Thus, Feldman does not disclose or suggest “in response to a selection of a preferred taxonomy based on a result of the comparison, storing the preferred taxonomy as a replacement of at least one of the reference taxonomy and the application taxonomy”, and does not anticipate claim 1 for this reason, as well.

For at least all the above reasons, Feldman does not anticipate claim 1, and claim 1 patentably distinguishes over Feldman in its present form.

Independent claims 16, 24 and 26 recite similar subject matter as claim 1 and are also not anticipated by Feldman for similar reasons as discussed above with respect to claim 1.

Claims 2-12, 14, 15, 17-22 and 25 depend from and further restrict one of independent claims 1, 16 and 24 and are also not anticipated by Feldman, at least by virtue of their dependency. Furthermore, many of these claims recite additional features that are neither disclosed nor suggested by Feldman. For example, claim 7 depends from and further restricts claim 1 and recites that the step of accessing storage to obtain an application taxonomy includes “using an adapter which interfaces to the respective computer program to access information relating to names of and relationships between stored data structures.” Claim 17 depends from claim 16 and recites that a taxonomy manager includes “a plurality of adapters, wherein each adapter enables accessing of storage associated with a computer program of a respective type and obtaining the application taxonomy for the computer program of the respective type.” Claim 22 depends from claim 16 and recites that the taxonomy manager includes “an adapter for interfacing between the means for generating a reference taxonomy and a publish/subscribe

messaging manager to enable at least a part of the generated reference taxonomy to be sent to a second taxonomy manager via the publish/subscribe messaging manager.” The Examiner refers to column 8, lines 46-51 and column 14, lines 18-27 of Feldman reproduced below, as disclosing the features of claims 7, 17 and 22:

Text mining processor **26** preferably comprises a central processing unit (CPU), which executes one or more programs to process user **22**'s query, carry out text mining responsive thereto, and, typically, semi-automatically modify the taxonomy responsive to the results of the text mining, as described hereinbelow

Feldman, column 8, lines 46-51.

Reference is now made to FIGS. 2 and 5. FIG. 5 is a graph showing an output of terms processor **90**, in accordance with a preferred embodiment of the present invention. A "keyword graphs" block **108** of terms processor **90** preferably generates graphs, consisting of a set of vertices, representing a set of terms of interest, and edges, representing quantitative relationships among the set of terms. Keyword graphs, as provided by the present invention, enable the user to quickly obtain meaningful relationships relevant to a set of terms in a database containing a large number of articles.

Feldman, column 14, lines 18-27.

Nowhere in either of the above portions of Feldman is there any disclosure of adapters or of using an adapter which interfaces to a computer program to access information relating to the names of and relationships between stored data structures or to obtain an application taxonomy. Claims 7, 17 and 22, accordingly, are not anticipated by Feldman and patentably distinguish over Feldman in their own right, as well as by virtue of their dependency from allowable claims.

Claim 10 depends from claim 1 and recites that the step of comparing the reference taxonomy with the application taxonomy is repeated in response to a trigger condition. Claim 11 depends from claim 10 and specifies that the trigger condition is expiry of a predefined time period. The Examiner refers to column 2, lines 33-44 of Feldman, reproduced below, as disclosing these features:

In some preferred embodiments of the present invention, terms in the term taxonomy ("taxonomy terms") can be edited by the user prior to text mining, and the taxonomy can be modified automatically by the processor and/or interactively with the user, responsive to results of the text mining. Typically, interactive editing of the term taxonomy responsive to results of the text mining yields improved results from a subsequent iteration of text mining, and these improved results may themselves be used to modify the taxonomy again. In this manner, the user may derive information of increased value from each iteration of text mining and term taxonomy modification.

The above recitation describes editing of taxonomy terms. Nowhere, however, does the recitation discuss a trigger condition for repeating a step of comparing a reference taxonomy with an application taxonomy, or that a trigger condition is expiry of a time period. Claims 10 and 11, accordingly, are also not anticipated by Feldman and patentably distinguish over Feldman in their own right as well as by virtue of their dependency.

Feldman also fails to disclose or suggest features recited in various other dependent claims including, for example, generating a graphical representation of the reference taxonomy including nodes representing data structures of the taxonomy via a graphical user interface (GUI) as recited in claim 14, or that the GUI includes a data backup function call and that the method includes the step of: in response to user-selection of the data backup function call and user-selection of a set of one or more nodes of the reference taxonomy, sending a call to the application program to backup data within the application taxonomy data structures corresponding to said set of nodes as recited in claim 15. Such claims also patentably distinguish over Feldman in their own right as well as by virtue of their dependency.

Therefore, the rejection of claims 1-12, 14-22, and 24-26 under 35 U.S.C. § 102(e) has been overcome.

II. 35 U.S.C. § 103, Obviousness: Claims 13 and 23

The Examiner has rejected claims 13 and 23 under 35 U.S.C. § 103(a) as being unpatentable over Feldman in view of Briscoe et al., U.S. Published Patent Application No. 2006/0224683 (hereinafter "Briscoe"). This rejection is respectfully traversed.

In rejecting the claims, the Examiner states:

(Claim 13)

Feldman discloses substantially all of the elements, except the reference taxonomy is performed by a distributed publish/subscribe messaging system. Briscoe teaches publish-subscribe technologies more generally, allow users to create channels that relate to a subject. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use publish-subscribe technologies, because it is easier for users to create channels that relate to subject.

(Claim 23)

Briscoe discloses including a listener component for identifying receipt of reference taxonomy information and triggering the taxonomy manager to process such received taxonomy information (paragraph [0002]).

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Claims 13 and 23 depend from and further restrict claims 1 and 16, respectively. Briscoe does not supply the deficiencies in Feldman as described above with respect to the independent claims. Claims 13 and 23, accordingly, patentably distinguish over the cited art at least by virtue of their dependency.

Therefore, the rejection of claims 13 and 23 under 35 U.S.C. § 103(a) has been overcome.

III. Conclusion

For at least all of the above reasons, claims 1-26 patentably distinguish over the cited art and this application is believed to be in condition for allowance. It is, accordingly, respectfully requested that the Examiner so find and issue a Notice of Allowance in due course.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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